

The Commonwealth of Massachusetts

NEW BEDFORD TEXTILE SCHOOL

REGULAR AND WAR-DURATION COURSES

1943 — 1944



NEW BEDFORD, MASSACHUSETTS

1171-1219 PURCHASE STREET

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ADMINISTRATION

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CALENDAR

Day Classes

1943

September 13, Monday, 8.30 A.M.
 September 27-October 1, Monday-Friday
 October 12, Tuesday
 November 11, Thursday
 November 24, Wednesday, 12 M.
 November 29, Monday, 8.30 A.M.
 December 17, Friday, 4 P.M.

First semester begins.
 Class elections.
 Columbus Day — Holiday.
 Armistice Day — Holiday.
 Thanksgiving recess begins.
 Thanksgiving recess ends.
 Christmas recess begins.

1944

January 3, Monday, 8.30 A.M.
 January 24, Monday, 8.30 A.M.
 January 28, Friday, 4 P.M.
 January 31, Monday, 8.30 A.M.
 February 22, Tuesday
 March 17, Friday, 4 P.M.
 March 27, Monday, 8.30 A.M.
 April 7, Friday
 April 19, Wednesday
 May 25-May 31, Thursday-Wednesday
 May 30, Tuesday
 June 1-June 8, Thursday-Thursday
 June 9, Friday, 8 P.M.

Christmas recess ends.
 Mid-year examinations begin.
 Mid-year examinations end.
 Second semester begins.
 Washington's Birthday — Holiday.
 Spring recess begins.
 Spring recess ends.
 Good Friday — Holiday.
 Patriots' Day — Holiday.
 Final examinations, senior class.
 Memorial Day — Holiday.
 Final examinations, other classes.
 Graduation exercises, school hall.

Evening Classes

1943

September 24, Friday, 7.30-9 P.M.
 September 27, Monday, 7.30 P.M.
 October 12, Tuesday
 November 25, 26, Thursday, Friday
 December 13-17, Monday-Friday
 December 17, Friday

Enrollment.
 First term begins.
 Columbus Day — Holiday.
 Thanksgiving recess.
 Examinations.
 First term ends.

1944

January 3, Monday, 7.15-9 P.M.
 January 3, Monday, 7.30 P.M.
 February 22, Tuesday
 March 13-17, Monday-Friday
 March 17, Friday

Enrollment, second term.
 Second term begins.
 Washington's Birthday — Holiday.
 Examinations.
 Second term ends.

With the shortage of labor and the resultant high wages, together with the desire of young men and women to serve their country, it is necessary for institutions such as New Bedford Textile School to readjust their courses so that they, too, may best serve during the emergency.

The absence of student graduates in the textile field who possess the necessary training will be most pronounced when we again start production on a keen, competitive, peacetime basis. It is then that the technologically research-trained mind will be in demand.

Textile training has made great strides in dealing with the natural and synthetic fibers in manufacture, finishing and their future uses in the finished product. The signs are all around us. Wonderful accomplishments of industry in the war program give only tantalizing hints of what is being stored up in potentialities for the future world.

In order to prepare for this shortage of trained technicians, New Bedford Textile School has arranged to accept a limited number of young men and women who have completed two years of high school and are capable of passing an entrance examination. This is a departure from the usual requirements regarding high school graduates.

An unusual opportunity is presented to the young men and women in this vicinity to secure a training that will be most valuable in peace time and of great assistance for advancement, should the student be called to the service of the United States.

While the regular three and two-year courses are recommended and we consider them necessary to obtain the proper background in the textile and mechanical industry, we plan to give special instruction in various subjects, providing there is a demand for this special training.

Following is a brief outline of subjects taught at New Bedford Textile School, including special courses that are to be held in conjunction with the regular courses:

GENERAL TEXTILE COURSE

Three Years — Diploma — Regular Fees

This course is designed to give the student a thorough fundamental knowledge of the different processes entering into the construction of a piece of cloth from the raw staple to the finished product.

During the first year the student takes up the study of yarn preparation, weaving, designing and cloth analysis. The study of mechanics, mechanical drawing and chemistry is also pursued the first year, the work in these subjects being designed especially for men who are to take up the cotton mill work. Instruction in yarn calculations, spooling, warping, and slashing is also offered during the first year.

In the second and third years sufficient time is given to instruction in picking, carding and spinning, while the subjects of weaving, designing and analysis are continued. Practical work in the machine shop is entered upon the second year.

Dyeing is begun the first year, the work being such as is of special interest to the student. The student is also given instruction in steam engineering during the second year, while in the third year, work in elementary electricity and cotton mill construction is offered. Knitting and color are also given in the third year. Rayon is taken up in the second year and continued in the third year.

The work in all subjects is so arranged that the student is taken gradually from the simpler to the more difficult problems. Much of the work in the last year is original, and the student is thrown on his own resources.

The work in chemistry, dyeing, mechanics and shop practice is all arranged with special reference to the student of cotton manufacturing.

This course is very thorough, and is always recommended to the student who is to make yarn and fabric manufacturing his future work.

KNIT GOODS MANUFACTURING COURSE

Three Years — Diploma — Regular Fees

This course in manufacturing knit goods is adapted to the needs of those students desiring a thorough knowledge of the knitting industry.

The instruction given covers both the technical and practical parts of the business, including cost finding.

During the first year the student takes up the winding and preparation of cotton, lisle, wool, worsted and silk yarns for use on hosiery machines; also the principle of circular latch-needle knitting, and the setting and adjusting of different makes of rib-leg and rib-top machines.

In the second and third year the time is given up to the study of the different knitting machines, knitting men's, ladies', children's and infants' hose and garments; method of handling and keeping account of goods through the mill; cost of manufacturing from yarn to the box.

Instruction is also given in cotton yarn preparation, yarn calculations, cotton sampling, mechanics, steam engineering, chemistry and dyeing, the work in these different subjects being arranged to meet the special needs of the student.

RAYON PREPARATION COURSE

Two Years — Certificate — Regular Fees

This course is designed to give the student the fundamental knowledge of the different processes entering into the construction of cloth made of rayon yarns.

During the first year the student studies rayon processing from skein to warp and filling packages, rayon testing, weaving, designing and cloth analysis. The study of mechanics, mechanical drawing, slide rule, chemistry and yarn calculations is also pursued in the first year.

In the second year rayon processing, rayon testing, weaving, designing and cloth analysis are continued. Dyeing is started in the first year and continued in the second year. Color and microscopic work are taken up in the second year.

This course is so arranged that the student will be qualified to enter any branch of the rayon textile business.

CARDING AND SPINNING COURSE

Three Years — Diploma — Regular Fees

The course in carding and spinning is designed to give the student a thorough knowledge of cotton yarn manufacture.

The larger part of the students' time is devoted to instruction on the different machines used in the preparation of cotton yarn.

Instruction is also given in knitting, mechanics, steam engineering, chemistry and dyeing. Considerable time is given to knitting, as that industry is closely related to cotton yarn manufacture.

This course is recommended to those students who intend to become connected with cotton yarn mills or to become cotton yarn salesmen.

Short intensive courses will be held in the carding and spinning departments. These courses will include mill calculations in carding or in spinning. This subject is for those who desire to improve themselves in mill calculations. Advanced calculations in doubling, drafting, production and cost of carding and spinning will be held for those who wish to advance themselves.

Courses will also be held in repair and maintenance of pickers, cards, drawing frames, combers and roving frames in the card room, and of spinning frames and twistors in the spinning room.

A short course in the physical testing of fabrics will be given. This course will enable the student to test fabrics for tensile strength, weight, turns per inch of the single yarn, tensile strength of single yarn and length of fiber.

If the enrollment warrants, a course in cotton classing will be given.

A course in microscopy will also be given. This will teach the student the use of the microscope and how to identify the various textile fibers, both natural and synthetic.

These courses are available to anyone. They may be taken by high school students, housewives, and men and women who may be working but can find time to attend classes. The courses will be held from one and one-half to three hours a day, either in the morning or afternoon.

Courses will be given in loom instruction, construction, maintenance and the field of fabrics in which each is used. This class would appeal particularly to those students with mechanical tendencies. Classes will be held in weave room practice, calculations, and management in the interests of those already employed in the mills of New Bedford.

TECHNICAL TEXTILE COURSE FOR GIRLS

Two Years — Certificate — Regular Fees

Students taking this course are given a general technical knowledge pertaining to the textile industry. They receive a theoretical understanding of yarn and fabric manufacture and of the dyeing and finishing of textiles. Major subjects include complete methods of physical testing procedures, designing, styling, microscopy and coloring as applied to textiles. Subjects of merchandising of textiles, elementary principles of retailing and economics give the student a foundation upon which to build a career in the retail trade.

Graduates of this two-year certificate course are capable of filling positions as laboratory technicians and as textile stylists. They are also capable of entering into the field of consumer relations work and promotion of products as carried on by the large textile organizations.

Students taking this course should be high school graduates.

DESIGNING COURSE

Three Years — Diploma — Regular Fees

Designing is a branch of textile manufacturing of sufficient importance to call for a separate diploma course, extending over three school years. Since the major subjects in this course are confined to designing, cloth analysis and weaving, the work is somewhat more intensive than in the general course.

The student, during the first year, takes up the study of the plain loom, the more simple designs and the analysis of such fabrics as contain designs similar to those being studied in the designing lessons.

Instruction the first year is also offered in the preparation of warps for the loom, while work in the mechanical department is entered upon the first year, and extends through all three years of the course.

Instruction in the mechanical department is considered essential to the student of designing, as many of the new fabrics brought out by designers from year to year are based as much upon the mechanism of the loom as upon pure design.

During the second year more advanced fabrics, such as double cloths, Bedford cords, piqués, and lenos, are studied, both in designing and analysis, while much of the work in the weave room consists of putting original designs into the looms and weaving a short length of each.

Commencing with the first term of the second year, a practical course in color is offered the student, who is required to work out a series of color scales and apply them in coloring designs.

In the second term of this year cotton sampling is introduced.

The third year is largely devoted to the subject of Jacquard designing in both the designing and weaving departments. During this year the subject of commission house work, as it applies to the styling and finishing of new fabrics, is dealt with, and the student is given a close insight into the requirements of this branch of designing.

For the student who wishes to perfect himself in the subject of cloth designing, as applied to the cotton trade, this course will be found very complete.

Elementary Textile Technology

This course has been designed principally for boys and girls attending high school. It may be taken by others who are interested in what it offers. The subject matter consists of the theory and practical training in testing of textile materials composed of cotton, wool, rayon, nylon, aralac, soybean and other fibers; the mechanics and practical use of the microscope; principles of textile designing and analysis; consumer training in the purchase, use and care of textile materials, wearing apparel and household articles; and the dye fastness properties of various colored textiles. Actual laboratory work by the student supplements the classroom lectures. In this course, the classes meet every afternoon, Monday through Friday, for one and one-half hours each day.

Consumer Education in Textiles

A course whereby the consumer can secure considerable knowledge to assist in better buying, proper use of and best care for textile materials is offered to housewives, business women and the consuming public in general. This course consists of one meeting a week, either day or evening, for each class, for twelve weeks. These weekly lectures and class demonstrations are of one and one-half hour length. The characteristics of the synthetic fibers, such as rayon, nylon, aralac, soybean are stressed in this course. The basic subject matter of the course covers textile materials and merchandise from the points of composition, construction, performance, use and care. Many samples of materials are distributed throughout the course.

Testing and Inspection

Training in the testing and inspection of textile materials is offered in special classes of various length and duration to fit the individual's requirements. Practical training may be had in the school's different laboratories on all major types of cloth. Such training can assist an individual considerably in securing a governmental position in quartermaster and military supply work.

The three preceding courses are war-duration courses and no tuition is charged those attending them.

MECHANICAL COURSE

Two Years — Certificate — Regular Fees

The mechanical course is arranged for those students who have a natural leaning towards mechanical things. A practical knowledge of the mechanical side of a textile mill may be obtained by those attending this course.

Instruction is given in shop mathematics, mechanical drawing, machine shop practice, slide rule, machine drawing and mechanism, steam engineering, elementary electricity, machine drawing and design.

A certificate course can be completed in two years, and, if the student so desires, he may specialize for another year either in the drafting room or the machine shop.

This course will fit the students to enter engineering offices, drafting rooms, machine shops, planning departments of various machine builders and other lines of employment.

JUNIOR MECHANICAL ENGINEERING

Two Years — Certificate — Regular Fees

Engineering Drawing	Basic Industrial Electricity
Tool Engineering	Industrial Mathematics
Blueprint Reading	Fundamentals of Machines
Machine Tool Operations	Practical Algebra

Engineering Drawing is mechanical drawing for elementary and advanced students and presents both a comprehensive treatment of technical drawing and its theory. Strong emphasis is given to the principles of drawing and the relation of this subject to industry.

Tool engineering covers all the aspects of the design and use of jigs and fixtures, stressing the economical use and the principles of their design and construction.

Blueprint reading for the machine trades will enable the student to obtain the basic information necessary to interpret a blueprint as used in the machine trades. All the prints taken up in this course have been taken from industry.

Machine tool operations will allow the student to obtain elementary and advanced work in operating machine tools and also the use of various precision instruments.

Basic industrial electricity consists of instruction in the fundamentals of electricity and its practical application to industry.

Industrial mathematics will familiarize the student with the essentials of mathematics that will be used in the practical application of technical knowledge to production and is therefore necessary in industry.

Fundamentals of machines teaches the principles of physical science that underlie the action of many mechanical devices. Emphasis is placed on the principles of mechanics and heat.

Practical algebra consists of the fundamental algebraic principles which are carefully interwoven with practical geometrical phases of algebra. The fundamental principles of trigonometric functions necessary to compute the problems involving angles and sides are also included.

CHEMISTRY, DYEING AND FINISHING COURSE

Three Years — Diploma — Regular Fees

The object of this course is to give to the student a thorough knowledge of the chemistry of the textile processes involved in the manufacture of cotton cloth. To insure a perfect foundation, the first two years are devoted almost entirely to chemical subjects

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and laboratory work. During this period the subjects of general chemistry, inorganic and organic, are taught, the preparation and properties of various chemicals and dyestuffs, the properties of the various fibers, and the coloring of them.

The third year is devoted almost entirely to the analysis of commercial articles and the practical dyeing and finishing of cotton goods. The best current practice is followed, but the underlying principles are thoroughly taught in order that the student may understand the limitations and purpose of each process.

The subjects of machine drawing, principles of mechanics, electricity and shop work are taught. These allied subjects are arranged with special reference to the major subjects, and are considered very important, as they give the student a first-hand knowledge of the construction of the various machines.

The graduates of this course find employment with dyestuff makers and dealers, with manufacturers of chemicals used in dyeing, with bleacheries, dye houses and finishing works.

It is very desirable that students entering this course shall have successfully completed a scientific course in high school or its equivalent. Any one, however, who can show, by passing an entrance examination, his ability to profit by the instruction given, is admitted.

Special Chemistry Courses

The chemistry department will offer a variety of special courses for the duration of the war. It will not be necessary for the special student to have completed a high school course in elementary chemistry before entering. Elementary courses will be offered so that the special student may acquire the proper background for the courses to follow.

Emphasis will be placed on special short pre-induction courses so that young men may receive instruction which will be of value when they are called into the armed services.

Young women who are desirous of training to become laboratory technicians will be provided with special instruction. Courses in general elementary chemistry will be offered to young women who desire to become nurses. The department urges all people interested in obtaining a knowledge of chemistry to apply at the school office where complete information may be obtained. Students who have completed elementary courses in chemistry will find advanced courses available.

The department of chemistry will continue to offer instruction in the chemistry of food and nutrition for the duration of the present world conflict.

Those special students attending full time will pay the regular fees. Special war classes will be free of charge, except that a small deposit may be required to cover the cost of any breakage.

Regular Fees

Day Students. — A tuition fee of \$20 a year is charged day students who are residents of Massachusetts. For non-resident students the fee is \$150 a year, and for students from foreign countries \$300 a year. All tuition fees are payable in advance in two equal installments, at the opening of each semester. No student shall be admitted to the classes until his tuition is paid. No fees are refunded except by special action of the Board of Trustees.

The above fee includes admission to any of the evening classes in which there is accommodation, and which the day students may desire to attend.

A deposit of \$10 is required of all day students taking the regular Chemistry and Dyeing Course. A deposit of \$5 is required of students taking chemistry in connection with any other course. These deposits are to cover the cost of any breakage that may occur, but in case the actual breakage exceeds this amount an additional charge is made. Any unexpended balance in excess of 25 cents is returned at the end of the year.

To non-resident and foreign students taking chemistry a further charge of \$10 for chemicals is made.

A fee of \$5 is charged each day student, to be used for assisting in the maintenance of athletics in the school and provides admission to all athletic activities.

All fees are due at the beginning of each semester.

Students are required to supply themselves with such books, tools and materials as are recommended by the school, and pay for any breakage or damage that they may cause in addition to the above-named fee.